

554,213

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
11 November 2004 (11.11.2004)

PCT

(10) International Publication Number
WO 2004/097095 A1

(51) International Patent Classification⁷:
1/60, A47L 13/16, 17/08, B24D 3/00

D04H 1/42,

(74) Agents: JONAS, George W., et al.; Office of Intellectual
Property Counsel, Post Office Box 33427, Saint Paul, MN
55133-3427 (US).

(21) International Application Number:

PCT/US2004/010198

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(22) International Filing Date: 2 April 2004 (02.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

0309329.1

25 April 2003 (25.04.2003) GB

(71) Applicant (*for all designated States except US*): 3M IN-
NOVATIVE PROPERTIES COMPANY [US/US]; 3M
Center, Post Office Box 33427, Saint Paul, MN 55133-
3427 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): MARTIN RIVERA,
Carmen [ES/ES]; Ctra de Vicalvaro a Mejorada del
Campo, Km 12, 400, Rivas Vaciamadrid, E-28529 Madrid
(ES). CABRERO GOMEZ, Estrella [ES/ES]; C/ Juan
Ignacio Luca de Tena 19-25, E-28027 Madrid (ES). POL-
LAUD, Guy M., [FR/FR]; Avenue Boule, BP28, F-95250
Beauchamp (FR).

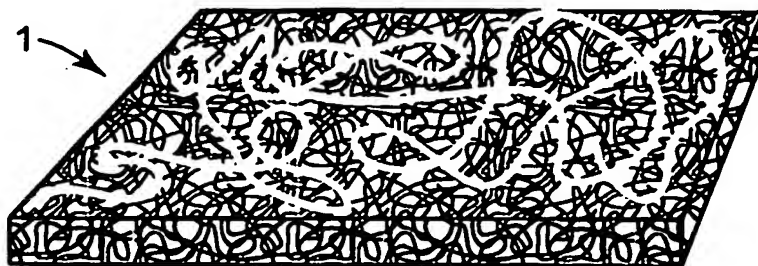
(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: SCOURING MATERIAL



(57) Abstract: A scouring material
comprises a three-dimensional
non-woven web of entangled fibres
bonded to one another at their mutual
contact points by a pre-bond resin and
a plurality of abrasive particles are
adhered to the fibres of the bonded
web by a make-coat resin. A majority
by weight of the fibres comprise
natural fibres and the bonded web has
a maximum density of 50 kg/m³. A
method of making a scouring material
comprises the steps of: 1) forming a

three-dimensional nonwoven web of natural fibres contacted with dry particulate material that includes fusible binder particles,
2) exposing the web to conditions that cause the binder particles to form a flowable liquid binder, and then solidifying the liquid
binder to form bonds between the fibres of the web and thereby provide a pre-bonded web and 3) applying abrasive particles to the
pre-bonded web and bonding the abrasive particles to the fibres of the pre-bonded web by at least a make-coat resin to provide
the scouring material.

WO 2004/097095 A1